



2829

Customer No.: 31561
Application No.: 10/605,305
Docket No.: 10665-US-PA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)
Application No.: 10/605,305)
Filed: September 22, 2003)
For: BUMP PROCESS FOR FLIP CHIP PACKAGE)
)
Applicant: HO et al.)
Examiner: GEYER, SCOTT B.)
Art Unit 2829)

RESPONSE TO RESTRICTION REQUIREMENT

U.S. Patent and Trademark Office
Commissioner for Patents
2011 South Clark Place
Customer Window, Mail Stop Amendment
Crystal Plaza Two, Lobby, Room 1B03
Arlington, Virginia 22202

Dear Sir:

In response to the Restriction Requirement mailed on April 8, 2004, regarding to the above-identified application, Applicant elects Species I : Method of attaching solder bumps to a chip, wherein the chip die pads are coated with an adhesive layer or "sticky film", as described in the specification in paragraphs [0020] to [0030], claims 1-6, 9-23, **with traverse**.

According to Chapter 803 in the MPEP, an application may properly be required to be restricted to one of two or more claimed inventions **only if they are able to support separate patents and they are either independent or distinct.** Further, to establish a prima facie case for restricting the claims of an application, the Examiner needs to (1) provide reasons why the inventions as claimed are distinct, (2) explain why the distinct inventions must be restricted on the basis of (a) separate classification, (b) separate status in the art, or (c) a different field of search. Moreover, claims to be restricted to different species must be mutually exclusive.

A restriction requirement imposed on Species I and Species II are not proper because these claimed inventions are not able to support separate patents. Further, Species I and Species II are neither distinct species as defined in the MPEP nor mutually exclusive. Species I and Species II, as alleged by the office as distinct species, are directed to a bumping process. To accomplish the bumping process, at least an adhesive layer is formed over each of the die pads, at least one of bump balls is attached to the adhesive layer on each die pad, and at least an underfill material is applied on the active surface of the chip to encapsulate the bump balls. The adhesive layer can be formed with different materials so as the attachment of bump balls to the adhesive layer on each die pad is accomplished, which is one of the claimed features of the present invention. Forming the adhesive layer with the different materials are basically different definitions of the same disclosed subject matter, varying only in breadth or scope. A restriction to one thereof is thus not proper.

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Further, the MPEP also states in Chapter 803.01 that if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct invention. Applicants respectfully submit that not only there is no adequate reason or support by the Office to treat the claimed inventions as distinct species, there should be no serious burden on the Office to search and examine the entire application even though it includes claims to independent or distinct the related inventions are essentially directed to a bumping process, wherein the bump ball can be attached to an adhesive layer formed on each die pad.

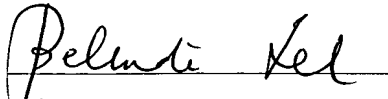
No fee is believed to be due in connection with the filing of this paper. However, the Commissioner is authorized to charge any additional fees that may be required to Account No. 50-2620 (Order No. 10665-US-PA).

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Application No.: 10/605,305
Docket No.: 10665-US-PA

Respectfully submitted,

Date :

May 3, 2004


Belinda Lee

Registration No.: 46,863

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Patent

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Applicant : Ho et al.
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Filed : 2003/09/22
For : BUMP PROCESS FOR FLIP CHIP PACKAGE
Art Unit : 2829
Examiner : GEYER, SCOTT B

TRANSMITTAL LETTER

002-1-703-872-9306

(Via fax: 6 pages, followed by confirmation copy via courier)

Assistant Commissioner for Patents
Arlington, Virginia 22202

Dear Sirs,

In response to the Office Action dated April 8, 2004, please find the relevant paper in response to paper No. 0404. Following the fax transmission, a hard copy via courier will also be forwarded to the Office.

Enclosed documents via courier will include:

- ☒ Response to Restriction Requirement in (4) pages
- ☒ Fax confirmation report
- ☒ Prepaid return postcard
- ☐ Extension fee

I believe that no fee is incurred. However, the Commissioner is authorized to charge any fees required in connection with the filing of this paper to account No. 50-2620 (Order No.: 10665-US-PA)

Thank you for your assistance in the subject matter. If you have any questions, please feel free to contact me.

Patent

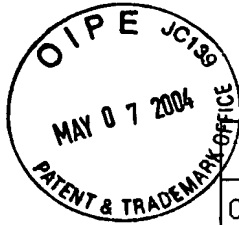
Customer No.: 31561
Docket No. 10665-US-PA
Application No.: 10/605,305

Respectfully Submitted,
JIANQ CHYUN Intellectual Property Office

Date: May 4, 2004

By: Belinda Lee
Belinda Lee
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Please send future correspondence to:
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Tel: 886-2-2369 2800
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**** Transmit Conf. Report ****

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